

REMARKS

Claims 1-31 were pending at the time of this Office Action. Claim 5 has been amended. New claims 32-42 have been added. Thus, claims 1-42 are present for examination. Reexamination and reconsideration of the application, in view of the following remarks, are requested.

Applicant thanks the Examiner for the indication that claims 1-4 are allowed.

Claims 5-7 and 15-22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Wu, U.S. Patent Number 5,774,551.

The rejection is respectfully traversed.

Claim 5 recites a method of processing data packets comprising among other features:

"providing data from the second data packet to said at least one encryption processing unit and processing the data from the second data packet in the at least one encryption processing unit while said at least one authentication processing unit further processes the output data for the first data packet."

Embodiments of applicants' invention as recited in amended claim 5 involve a method wherein data is provided to the at least one encryption processing unit and processed by the at least one encryption processing unit while (i.e. during the time) the at least one authentication processing unit is further processing output data from one data packet. Thus, amended claim 5 involves concurrent processing.

These features are neither disclosed nor suggested in Wu.

Wu does not teach or suggest that data is provided from one data packet to an encryption processing unit and that the data is processed in the encryption

processing unit while an authentication processing unit further processes other data, as recited in applicants' amended claim 5.

Instead, Wu teaches that a plurality of software modules exist in memory 103 and are sequentially executed by a single processor 115 within computer 101 in a conventional manner. (See Fig. 1; col. 5, lines 30-34). More specifically, Wu teaches that stacked authentication services 109 are invoked sequentially by the processor 115. (See col. 9, line 57 through col. 10, line 2. See also col. 8, lines 17-43; col. 8, lines 58-60; col. 10, lines 15-35; col. 18, lines 51-56). Wu teaches that the stacked authentication services 109 are stored in a queue and executed sequentially for authenticating a user. (See col. 6, line 67 through col. 7, line 4; col. 9, lines 37-39; col. 20, lines 23-31). Wu further teaches that a first authentication of a user's previously encrypted and stored first token is carried out. (See col. 3, lines 62-66). After the first authentication process produces a first result, a second different authentication process is carried out using a previously encrypted and stored second token to produce a second result. (See col. 18, lines 20-34).

Thus, Wu teaches that first an encryption process is carried out on data and the encrypted data is stored in a memory. Then, stacked authentication services are invoked sequentially and passed the previously encrypted data for decryption. (See col. 17, lines 45-59). Wu does not teach or suggest that data is provided to the at least one encryption processing unit while the at least one authentication processing unit is further processing output data from one data packet, as recited in applicants' amended claim 5. Nor does Wu teach or suggest that the data is processed by the at least one encryption processing unit while the at least one authentication processing unit is further processing output data from one data packet, as recited in applicants' amended claim 5.

In contrast to Wu, applicants state that a problem exists where one packet must be encrypted and authenticated before the next packet is encrypted

and authenticated. (See applicants' original disclosure, page 2, lines 17-18). To address the stated problem, embodiments of applicants invention, as recited in applicants' amended claim 5, provide a method wherein data is provided from a data packet to at least one encryption processing unit. The data is provided while at least one authentication processing unit further processes other data. In addition, the provided data is processed in the at least one encryption processing unit while the at least one authentication processing unit further processes the other data.

Thus, there are features of applicants' amended claim 5 that are neither disclosed nor suggested by Wu. Thus, applicants' amended claim 5 is not anticipated by Wu and is, for at least this reason, believed to be allowable.

Applicants' claims 6 and 7 depend directly or indirectly from claim 5 and are, for at least this reason, believed to be allowable.

Applicants' independent claims 15, 16 and 22 recite features similar to applicants' amended claim 5 and are, for at least this reason, believed to be allowable.

More specifically, claim 15 recites, among other features:

"encrypting a second data packet with the encryption processing module while authenticating the first data packet with the first authentication processing module connected to the encryption processing module by a data bus".

Claim 16 recites , among other features:

"performing encryption of a second data packet within the encryption processing unit prior to completion of authentication of the first data packet".

Claim 22 recites , among other features:

"encrypting a second data packet with the encryption processing module while authenticating the first data packet with the first authentication processing module".

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As discussed above in relation to applicants' amended claim 5, Wu neither discloses nor suggests the recited features. Thus, applicants' claims 15, 16 and 22 are, for at least this reason, believed to be allowable.

Furthermore, in the previous office action mailed April 9, 2002, the Examiner recognizes that Wu does not specifically disclose "performing encryption on a first data packet and after completion of the encryption of the first data packet, performing authentication of the first packet, and performing encryption of a second data packet prior to completion of authentication of the first data packet".

Thus, for this additional reason, claim 16 is not anticipated by Wu and is, therefore, believed to be allowable.

Applicants' claims 17-21 depend directly or indirectly from claim 16 and are, for at least this reason, believed to be allowable.

Claims 8-21 and 15, 22 and 23-31 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Wu, U.S. Patent Number 5,774,551.

The rejection is respectfully traversed.

Claim 8 depends directly from claim 5 and, is believed to be allowable for at least this reason.

Claim 9 recites a method of processing data in a computer, comprising, among other features:

"performing encryption of a second data packet within the encryption processing unit prior to completion of authentication of the first data packet."

Independent claims 15, 16, 22, 23, 29 and 30 recite features similar to claim 9.

As stated above, the Examiner recognizes that Wu does not specifically disclose "performing encryption on a first data packet and after completion of the encryption of the first data packet, performing authentication of the first packet, and performing encryption of a second data packet prior to completion

of authentication of the first data packet". Accordingly, the Examiner takes official notice that "encrypting a second packet before authentication is well known in the art".

However, Wu teaches away from encrypting a second packet before authentication is complete, as recited in applicants' claim 9. That is, Wu teaches away from concurrent processing by an encryption unit and an authentication unit.

Wu teaches a system and method for providing unified log-in and log-out from any system entry service 107 to multiple account management services co-located on a computer 101. The computer 101 includes a single processor 115 that sequentially executes software modules that exist in memory 103. (See Fig. 1; col. 5, lines 30-34).

Because a single processor can only execute sequential instructions, only one software module may be executed at any given time by the single processor 115. Thus, because Wu teaches a single processor 115 within the computer 101, Wu teaches away from encrypting a second packet before authentication is complete.

Furthermore, Wu neither discloses nor suggests using processors separate from processor 115 as concurrent processing units for encrypting a second packet before authentication is complete. In fact, Wu teaches away from such distributed processing of data.

Wu specifically teaches a system and method for providing unified log-in and log-out from any system entry service 107 to multiple account management services co-located on a single computer 101. (See Abstract; FIG. 1).

However, in contrast to a unified system, distributed processing of data involves performing processing of data in local computers, with the resultant data being sent to a central computer for further processing with the data from other local computers. In another aspect of distributed processing, processing tasks are

delegated from a central computer to multiple distributed processors. In this manner, each processor may be devoted to a particular task.

Wu teaches away from such distributed processing of data. Wu is directed to a unified system wherein multiple authentication services are used to increase the security of a computer system. (See col. 1, lines 49-52). As shown in Wu's FIG. 1, the multiple authentication services 109 are co-located on a computer 101. Computer 101 is accessed across a network by remote computer 135 and remote terminal 137.

Secure functions are typically performed in a secure (protected) environment in order to avoid unauthorized access to the data that may compromise security. It would be more difficult to provide a secure environment in a distributed system. That is, if the software modules in memory 103 or any other applications within computer 101 were distributed to either remote computer 135 and remote terminal 137 for concurrent processing, the security of the unified system taught by Wu might be compromised, for example through hacking. Thus, such distributed processing is contrary to Wu's system wherein multiple authentication services co-located on a single computer are used to increase the security of a computer system.

Thus, it would not be obvious to a person skilled in the art to have multiple separate processors at multiple different locations performing secure functions.

Thus, embodiments of applicants' invention, as recited in claims 9, 15, 16, 22, 23, 29 and 30, would not have been obvious at the time the invention was made to a person having ordinary skill in the art. Thus, the Patent and Trademark Office has not made out a prima facie case of obviousness under the provisions of 35 U.S.C. 103(a).

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Claims 10-14, 17-21, 24-28 and 31 depend directly or indirectly from claims 9, 15, 16, 22, 23, 29 and 30 and are, for at least this reason, believed to be allowable.

Applicants' new claims 32-42 recite features that further distinguish embodiments of applicants' invention from Wu. Support for new claims 32-42 may be found in applicants' original specification at, *inter alia*, page 5, lines 12-15; page 6, lines 5-8; FIGS. 2, 3).

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application and allowance of the claims at an early date is respectfully requested.

If, for any reason, the examiner finds the application to be in other than condition for allowance, applicants request that the examiner contact the undersigned attorney at (310) 975-7965 to discuss any steps necessary to place the application in condition for allowance.

Respectfully submitted,

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